Responses to the PTG — Public Trust Group, The, letter dated July 19, 1996

1. Statement noted.

2. As outlined in Chapter 2, issues of public concern that were identified in the public scoping process for this EIS/EIR were used to develop evaluation criteria for comparing the alternative management approaches for dredged material disposal. The three criteria include: (1) the potential risks and benefits to ecological systems, (2) the degree to which an alternative would support an understandable and consistent regulatory framework, and (3) the effects on dredging-related economic sectors. Comparison and evaluation of the final alternatives based on these criteria (section 6.2) demonstrates the difficulty of determining which management alternative provides a balanced approach for all LTMS stakeholders.

   The LTMS agencies did not identify a preferred alternative in the Draft EIS/EIR to allow the environmental, fisherman, port, and development communities to have an opportunity to provide specific comments on the alternatives. The participation of reviewers aided in the identification of Alternative 3 as the preferred alternative. A transition to this alternative will support both environmental and economic goals and allows for reasonable and effective implementation of the LTMS.

   Note also that in-Bay disposal will decrease, that the SF-DODS volume limit has been reduced, that habitat restoration projects will be subject to NEPA/CEQA review, and that resource agencies will be consulted.

3. See the response to GGAS comment 27.

4. The LTMS believes that the alternatives discussed in the Draft EIS/EIR have been adequately analyzed for a policy/programmatic document and the associated decisions. A more detailed environmental and economic analyses would be done for site-specific and project-specific projects, as appropriate.

   Alternatives that focus on any one placement environment were eliminated from further consideration early in the LTMS alternatives development process, in part based on public scoping comments. See section 5.2.1 for an explanation of the LTMS's analytical approach to the alternatives. Further clarification has been added throughout the Final EIS/EIR to better distinguish both opportunities and potential impacts in wetland versus upland settings (see the responses above to DOI comment 13 and 25c). In addition, although the EIS/EIR considers the overall effects of closing military bases on the need for dredging (and therefore disposal or reuse) throughout the Region, it is beyond the scope of this programmatic document to conduct site-specific evaluations. Base closure reuse decisions occur via an established, highly structured process involving significant input from local authorities and other stakeholders. Reuse or disposal of dredged material can be considered in these site-specific contexts. For example, continued use of dredged material disposal facilities at the Mare Island Naval Shipyard are being discussed in the local planning effort for that facility. LTMS will continue to work with such planning efforts to seek opportunities for dredged material reuse whenever appropriate.

5. Statement noted. Hamilton Air Field and Mare Island are being analyzed for such uses.

6. In response to the comment that the Draft EIS/EIR does not discuss the alternative of reducing dredging, please see the responses to EDF comments 1b and 1c, EFM comment 1, and MAS comments 16a and 19j.

   Appendix E of the EIS/EIR provides information on how future dredging volumes were estimated. Dredging volume estimates fall into two categories: (1) maintenance work (estimates were based on 25 years of historical dredging volume records and took into consideration regulatory changes and military base closures); and (2) new work. New work dredging volumes is the category in which any new port designations would fall. However, new work estimates were determined based only upon existing port

designations. Thus, deepening projects at the Port of Oakland Phase II (the 50-foot project), John F. Baldwin Phase III, Port of Richmond, San Francisco Harbor, and Port of Stockton were considered in the new work volume estimates. The COE and each port provided information on potential new work volumes as a result of deepening projects. Potential new port areas and those de-designated as ports in the Seaport Plan were never considered in these estimates.

7. See the response to GGAS comment 27.

8. Statement noted. Each habitat restoration site would be considered on a case-by-case basis. In some cases, dredged material can be used to create or restore seasonal wetland habitats by raising and modifying topography and thus improving wetland hydrology. In other cases, it may be determined that the use of dredged material is not the appropriate manner of enhancement or restoration. Tidal wetlands restoration using dredged material offers the opportunity to enlarge the Bay and its associated tidal wetlands while reducing the risk of impacts associated with the current practice of in-Bay disposal.

9. Please see the response to DOI comment 7, Oakland comment 7, and Chevron comment 2.

Statement noted. Please see the response to CCCR comment 16.

Please see the response to OAS comment 7.

Please see the response to CCCR comment 16 regarding the role of future studies and projects in the LTMS process. The response to OAS comment 7 provides information regarding mitigation for seasonal wetlands, while the response to CCCR comment 25 and GGAS comment 19 provide information on the mitigation required for any unsuccessful attempts at restoring tidal wetlands.

The EIS/EIR identified the disposal options/placement sites that may be used to decrease impacts on the Bay's ecology from in-Bay dredged material disposal. Implementation of the preferred alternative (Alternative 3) is addressed in the Final EIS/EIR (see section 6.5) and the Management Plan prepared by the LTMS agencies. An institutional and management framework will be established in the Management Plan that will aid in the successful implementation of restoration projects. Also see the response to DOI comment 9.

10. Please see the response to PTG comment 4. See also Figure 6.1-1, which shows that all three action alternatives involve less in-Bay disposal compared to the No-Action alternative.

11. In response to the comment that the Draft EIS/EIR does not discuss the alternative of reducing dredging, please see the responses to EDF comments 1b and 1c, EFM comment 1, and MAS comments 16a and 19j.

UNITED ANGLERS OF CALIFORNIA

July 12, 1996

LTMS EIS/EIR Comments
U.S. EPA Region 9 (W-3-3)
75 Hawthorne Street
San Francisco, CA 94947

Re: Our comments on your LTMS Strategy For Placement Of Dredged Material In The San Francisco Bay Region - Draft EIS/EIR.

Dear LTMS Coordinator:

United Anglers of California is the state's leading fishery conservation organization represent some 30,000 anglers including over 70 affiliated associations. We are vitally interested in the welfare, restoration and management of the state's fishery resources. We are particularly concerned about the impacts to the San Francisco Bay-Delta estuary's aquatic environment and its fishery resources due to the disposal of dredged material into this environment. 1

The living aquatic resources of this environment are very sensitive to pollutants and turbidity which affect their longevity and productivity. The extensive amounts of dredged material being disposed as well as the huge projected increases represent a clear danger to the estuary due to its' finite nature and the inevitable remobilization of such pollutants into the food web. Turbidity impacts from the resuspenshion of dredged materials are of concern as well. We therefore believe that it is essential to absolutely minimize aquatic disposal while emphasizing positive programs such as levy stabilization and wetland creation. Such programs should receive paramount consideration and appropriate resource allocation. 2

We are concerned the Draft EIS/EIR under estimates the impacts that occur to the estuary's ecology and the life forms it sustain including fish and their food web. The pollutant loading in the estuary is at a crisis level. The state's health warnings advise against the consumption of many fish species commonly consumed. Any activity that increases pollutant accessibility to the food web poses extensive 3

5200 HUNTINGTON AVENUE, #300 / RICHMOND, CA 94804 / (510) 525-3474 / FAX (510) 525-3664

3 environmental consequences to the ecological health and productivity of the system and those who consume its' resources.

While we support the LTMS policies, goals and objectives and applaud the progress that has been made to reduce the impacts to the estuary's ecology resulting
4 from aquatic disposal, we are compelled to point out that the current practice of using the estuary as a disposal site may be in violation of the Clean Water Act. Due to this we urge the adoption of the alternative that minimizes disposal in the estuary. As we noted in our oral testimony during the public hearing on June 20th., the EIS/EIR should acknowledge and provide an immediate solution to the findings of the Government Accounting Office's report of 1989 (GAO/RCED-90-18) that the use of the estuary as a disposal site was not in compliance with the Clear Water Act. Their report referenced Section 33 U.S.C. 1251 that requires the restoration and maintenance of the physical, chemical and biological integrity of the nation's waters by state and federal regulatory agencies. The act places a fiduciary responsibility on the Environmental Protection Agency, the CORPS and other agencies to prevent the disposal of dredged material in the estuary unless it can be demonstrated this would not result in significant loss of, or damage to, fisheries, shell fisheries, wildlife habitat or national recreational areas.

5 Since this draft EIS/EIR acknowledges in-bay disposal has significant short and long term deleterious impacts to the aquatic environment, the document should discuss those reasonable actions that can be taken to assure the fastest possible transition from the "no-action alternative" to "alternative 3" which would significantly reduce in-bay disposal. If this document is to comply with the requirements of the National Environmental Policy Act, each alternative must be evaluated as to the extent to which it complies with the Clean Water Act. The document should identify the preferred project alternative and exactly how the transition from the "no-action alternative" to this alternative will be made.

6 In order to implement such a transition, the document should specify who will be in charge of and provide oversight for achieving alternative 3, how implementation

problems will be resolved, and what the time lines are for critical milestones in the transition process. 6

Please also note that we are absolutely opposed to establishing Alternative 1 or 2 as well as the "no-action alternative" as the preferred alternative for a host of environmental and economic rationale including that cited above. 7

Specific Concerns:

* In addition to its value as transportation and shipping highway, the Bay-Delta estuary has significant value in other ways that should be discussed in the document. You should provide the same level of importance to the following that you put into your assessment of the economic importance of dredging to the economy: 8

- Determine the value of the estuary's natural ecosystem including what it provides the public as a national treasure as well as what its resources generate for the economy. Please include an analysis of its value in terms of both non-consumptive uses and extractive uses such as recreational and commercial fishing. 8a

- Provide an estimate of what it would cost the public to replace the ecology of the estuary should it collapse under the impacts associated with the "no action alternative". While some may argue such a collapse is unlikely, the no action alternative, when combined with other man made impacts to the estuary, such as massive water export and increased pollution, could result in such scenario. 8b

* In Chapter 4.0 "Affected Environment", under part 4.2.4.7, you discus "Commercial Fisheries" but not "Recreational Fisheries. This section should be modified to include the entire fishing industry, especially since the economic data demonstrates that the contribution of recreational fisheries significantly exceeds commercial fisheries. 8c

* In part 4.3.1.5 of Chapter 4 - "Biological Resources of the San Francisco Estuary" - you neglect to mention the important role California halibut now play as a Bay recreational and commercial fishery resource. 8d

* We urge a more comprehensive treatment of the effects on the Bay's ecology, especially its primary productivity, that could result from repeated disposal 8e

8e events during short durations in time. It should include a discussion of the potential impacts that can occur from periods of extended turbidity during the late spring, summer and fall and how this could affect the productivity and size of the Bay's food web, including the ramifications of such impacts to those species relied upon by the recreational and commercial fishing industries and the public they serve.

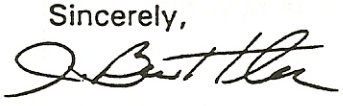
We believe there is ample evidence to suggest that aquatic disposal affects

8f turbidity levels that, in turn, impact the photic zone. However, we do not concur that disposal is not expected to pose a risk to San Francisco Bay's primary productivity (see page 4-59). In fact, we believe the opposite has occurred and will likely occur again if not prevented. In the late 1980's periods of extended turbidity existed in the Bay. Because of the lack of scientific monitoring regarding the food web, the degree to which this turbidity affected productivity was not be determined.

8g The turbidity impact on photic and tropic levels could be significant for the Bay's food web and this should be discussed in light of its actual ecological process. Mention should be made of the extensive in-Bay disposal in the late 1980's that resulted in extended periods of Bay "brown out". Disposal events were often taking place on the hour nearly every day at the Alcatraz site, according to some sources. The fish that serve as forage for striped bass, halibut and salmon and other species became nearly non-existent as it fled the Bay for cleaner ocean waters. It was theorized that this migration took place so these fish could avoid "gill abrasion" from the silt suspended in the water column, but we did not rule out that damage to their food supply was also a key variable.

We appreciate the opportunity to make these comments and trust you will find our recommendations worthy of incorporation into the final document.

Sincerely,



John Beuttler,
Executive Director

Responses to the UA — United Anglers of California, letter dated July 12, 1996

1. Statement noted.

2. Statement noted. The Final EIS/EIR notes that Alternative 3, which would reduce aquatic disposal, is the preferred alternative.

3. The EIS/EIR attempts to characterize impacts and the risk of potential impacts to the Bay's ecology associated with the disposal of dredged material within the different disposal settings. However, it is recognized that a complete analysis of the impacts associated with project-specific disposal/placement activities, including potential impacts to aspects of the Bay's ecology, were not addressed. Individual environmental impact analyses will need to be conducted on a project-specific basis as mandated by both the California Environmental Quality Act (CEQA) and the federal National Environmental Policy Act (NEPA). In addition, see the responses to DOI comment 6, Benicia comment 5, and Krone comment 9a.

   As sections 3.2.3.4 and 3.2.4 emphasize, the accessibility of contaminants to the Estuary food web is related to a number of variables, but most importantly to the bioavailability of contaminants and the opportunity for organisms to be exposed to them. Sediment proposed for disposal is screened and the appropriate disposal option is chosen based on the need to minimize any adverse effects that could result from the release of contaminants into the food web. If evaluation of sediment quality shows that there is the potential for unacceptable adverse effects at the proposed placement site, control measures can be considered for reducing or eliminating the risk of releasing contaminants into the food web or an alternative site can be chosen. These control measures are outlined in section 3.2.4.5 and are reflected in the mitigation measures in sections 5.1.1.1 and 5.1.1.2.

4. Statement noted. We believe that Alternative 3 will minimize overall risks to the environment and that it represents the best economically achievable balance of disposal environments.

5. Statement noted. Implementation of Alternative 3 and the transition to Alternative 3 will be discussed in the Management Plan. Please see the new discussion of the transition to Alternative 3 (section 6.5) in the Final EIS/EIR.

6. Statement noted. Implementation of Alternative 3 and the transition to Alternative 3 will be discussed in the Management Plan. Please see the new discussion of the transition to Alternative 3 (section 6.5) in the Final EIS/EIR.

7. Statement noted.

8. One of the major reasons that LTMS was initiated was growing recognition of the fact that the Bay-Delta Estuary has immense value and ecological importance. Chapter 2 (section 2.2.3) of the EIS/EIR discusses the relationship between the broader San Francisco Estuary Project, and the LTMS which focuses on only one of the "five critical areas of environmental concern facing the Estuary" identified by the SFEP. In addition, Appendix L of the EIS/EIR presents an economic valuation of potential benefits associated with upland or wetland reuse alternatives to aquatic disposal. Although the LTMS agencies do not anticipate that the ecology of the Estuary would "collapse" under the No-Action alternative, they have selected the alternative whose goals include the least amount of dredged material disposal within the Estuary, and the greatest amount of beneficial use of dredged material for habitat restoration and other purposes, which is Alternative 3.

8a. Please see the response immediately above to UA comment 8.

8b. Please see the response above to UA comment 8.

8c. Section 4.2.4.7 has been revised to more clearly include both recreational and commercial fisheries. (Note that section 4.2.4 is meant to provide a general discussion of Historic Changes to the Estuary, and not a detailed analysis of fishing in the region.)

8d. Section 4.2.4.7 only lists examples of different types of marine, estuarine, and freshwater species. It is not intended to document the most important or threatened species.

8e. There is no question that seasonal variations in turbidity impact the primary productivity within the Bay and thereby impact the total productivity of the system. There is no evidence at this time that disposal of dredged material has a measurable effect on the primary productivity within the Bay that can be distinguished from the natural variations in turbidity. In response to potential impacts of turbidity (including fish avoidance of water with high levels of suspended solids), the preferred alternative includes large reductions in the amount of in-Bay disposal and restrictions on dredging and disposal during periods of highest risk to fish. (See also the response to MAS comment 18i(1).)

8f. The LTMS agencies disagree that turbidity caused by the current and projected levels of in-Bay disposal will have a measurable effect on the primary productivity of the Bay (see previous response immediately above to UA comment 8e).

8g. See previous responses to UA comments 8e and 8f.

Letters from Individuals

STERLING K. ATKINSON, PE, CEG

Construction Management Consultant

P.O. Box 4953
Foster City, CA 94404

Civil Engineer
Engineering Geologist

Phone: 415-345-9827
FAX: 415-345-4016

July 18, 1996

LTMS EIS/EIR Coordinator
c/o U.S. Environmental Agency
75 Hawthorne Street, W-3-3
San Francisco, CA 94105

Gentlemen:

I have read with great interest your very comprehensive report regarding the dredging of the San Francisco Estuary and disposal of dredged material. I would like to make several comments on the construction process part of the report concerning "Bay mud". The report varies from long established common practice. 1

Volume I, page 3-10, "Construction Processes" says that sand deposits are an important source of construction material unlike Bay muds which are generally unsuitable for use as "engineered fill" because of their lack of structural strength.

The report also says on Page 3-9 that the bay mud soils (silts and clays) comprise most dredged materials and on Page 4-137, that they are ideal for landfill use. Further, on page 4-138 the report says that the bay muds can be used for dikes, as well as landfills. There seems to be no mention of using Bay muds for residential, commercial or industrial construction.

Large scale construction operations by **Leslie Properties, Inc.**, (Leslie) in **1968 and 1969** at the **"Redwood Shores"** Project in Redwood City showed that Bay mud, in both dredge slurry and dragline bulk excavated condition, could be rapidly "processed" (dried) to engineering specifications and "harvested" (loaded, hauled, spread and compacted) for use in engineered fill. Engineered Bay mud fills at Redwood Shores have strengths of about 1,000 to perhaps 1,200 pounds per square foot, are relatively impermeable, and not subject to liquefaction. The bay mud engineered fills have predictable engineering properties. While not especially high in strength, they are still quite suitable for land development from an engineering standpoint when capped with imported fills. The use of bay mud engineered fill at Redwood Shores has had the double advantage of reducing the quantity of import fills and also absorbing the Bay muds excavated to provide the project's interior waterways. The methods developed in 1968-69 by Leslie met all budget, schedule and quality control requirements at that time, and are still being used today. 2

A brief description of Leslie's 1968-69 operations is attached. Also attached are a low altitude air photo taken on August 13, 1969 expressly to record Leslie's Bay mud operations, and a high altitude air photo taken August 12, 1969 which provides an overall view of Redwood Shores.

I would be pleased to provide additional details about Leslie's operations, if requested.

3 I urge that you reconsider the wording of your report so as to include the use of Bay mud for engineered fill for residential, commercial and industrial construction.

Very truly yours,

Sterling K. Atkinson, P.E., C.E.G.

Redwood Shores Experience:

1968-72. Project Engineer, Leslie Properties, Inc. In charge of all Leslie construction.
1972-73. Chief Engineer, Mobil Oil Estates Ltd.
1978-82. Sr. Vice President, Cooper & Clark, Geotechnical Engineers. Program manager and consultant to Mobil.

STERLING K. ATKINSON, PE, CEG
Construction Management Consultant

Redwood Shores

1968 Bay Mud Operations

The following summarizes a series of complex events. Some details are left out for brevity but more information is available, if requested.

In the Spring of 1968, the hydraulic dredging of nearby Belmont slough produced roughly 1,200,000 cubic yards of Bay mud slurry retained in ponds covering about 200 acres. An experiment was conducted by Dames & Moore (D&M) in May-June, 1968 to process the bay mud in a 28-acre pond, from the top down, using floating equipment designed primarily for drilling purposes. This experiment failed because the equipment could not handle the four-foot deep slurry without major redesign.

In August, 1968, Leslie, using conventional, rented, light weight earthmoving equipment, developed a practical method to process and harvest the Bay mud. The method was developed following an additional equipment experiment by Leslie's forces in June using JD-450 tractors which also failed, and after further review of the causes of the floating equipment failure. It was evident from these experiments that cohesion, which very gradually developed as the 4-foot deep silty clay slurry changed from a watery fluid to a viscous state, put too much drag on the bulldozers (JD-450, Cat D-6, Cat D-7) used for processing. Drag occurred on all tractor types at two locations: the "crawlers" (track undercarriage) and the bottom "pan" located beneath the engine. Thinning the slurry to a thickness slightly below the pan, typical ground clearance 15 inches (see tractor manuals), removed that source of drag and was sufficient to permit the tractors to process the slurry regardless of moisture content/cohesion.

Once the cohesion/drag problem was understood, Leslie decided on another, somewhat risky, experiment to thin the 4-foot thick slurry in the 28-acre pond to less than 15 inches. Leslie used a highly unconventional method, namely, make a small breach in the pond dike and permit the slurry to flow out on adjacent ground. The gamble was that the slurry had just enough viscosity so that it would not flow indefinitely. When actually breached, the entire 28 acres started moving, like molten metal from a ladle, flowed about 150 feet outside of the breach where it stopped and formed a delta shaped deposit. The outside edge of the delta was about three inches high and all 28 acres of slurry surface had tilted towards that outer edge. Problem solved! A Cat D-7 was used to process the soil from the outer edge (i.e. from outside the pond dike) - moving gradually into the pond and then towards the far end of the pond. The D-7 never had to get on top of the soil, ground clearance was no longer an issue, but merely side cut the outer edge of the soil with the edge of the dozer blade and spread it out to workable thickness. Although the soil progressively thickened inside the pond, the D-7 never had to get into deep soil, but merely continued side cutting the exposed outer edge. Although unconventional, this success meant we could handle the remaining slurry ponds whenever we chose. The key lessons were control of mud thickness and proper equipment application.

1969 Bay Mud Operations

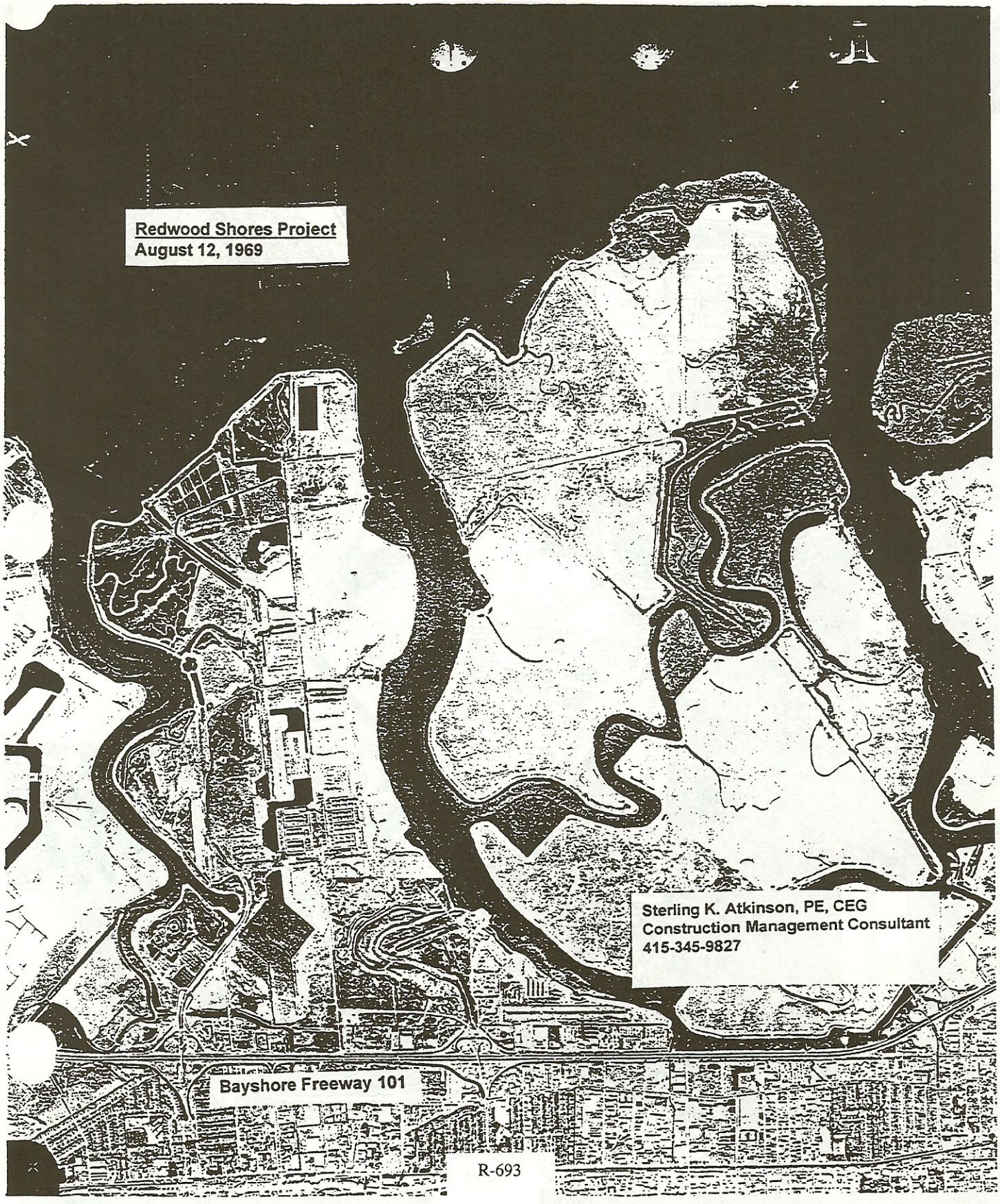
Leslie's operations in 1969 took advantage of the lessons learned in 1968. The operations were mainly concerned with dragline excavated Bay mud, not slurry, and were carried out on a large scale.

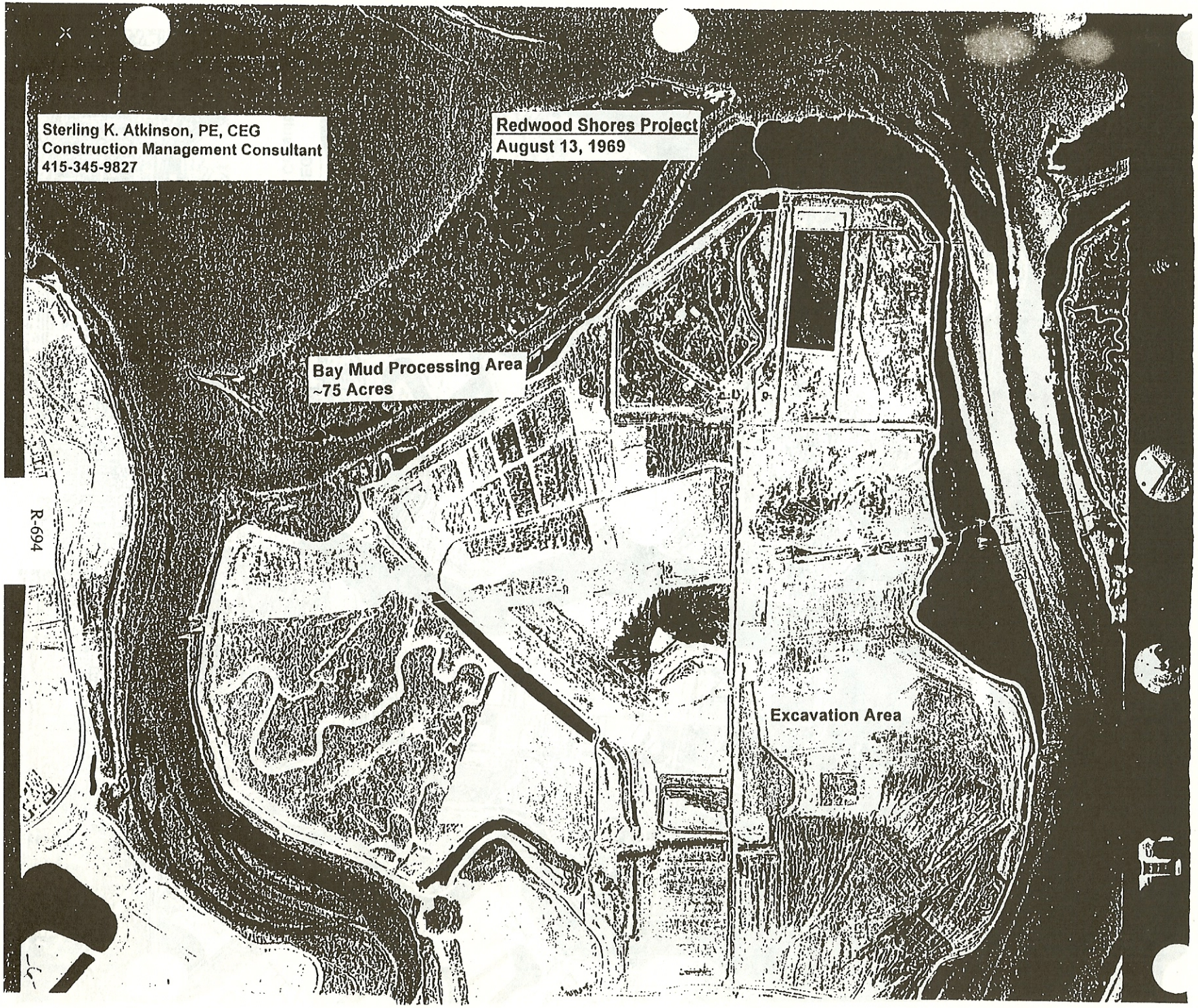
Attached is a highly unusual air photo taken expressly at low altitude for Leslie on August 13, 1969 to record Bay mud processing and excavation operations. The photo covers roughly 300 acres, shows waterways being excavated and shows the processing area. The processing area consists of a series

of rectangular areas separated by haul roads. The rectangular areas are composed of orderly rows of dumped Bay mud which is drying out. The darker areas are the wetter, most recently dumped piles, and the lighter areas are those which have almost dried enough to be hauled off for fill. As each processing rectangle was cleared of dried soil, it was promptly refilled with freshly excavated wet soil. A continuing production cycle was thus achieved. The process area shown is roughly 75 acres. The haul distance from the nearest excavation to the closest entry to the process area is about 1,000 feet.

As in 1969, Leslie was it's own general contractor and rented and directed over 60 units of earthmoving equipment at peak operations. From startup to finish the entire project took about six months. Work included excavation and shaping of waterways to close grade tolerances, demucking sloughs, hauling, processing Bay mud, site prep to receive fill, placement and compaction of Bay mud fill to specifications. The project met all budget, schedule and quality control requirements.

Schedule constraints were imposed by the weather. Review of Weather Bureau records prior to start showed that evaporation rates in the Redwood Shores area were best from about mid-April to mid-September. The operations were scheduled accordingly. These evaporation rates were roughly verified in the field. By mid-September the evaporation rates dropped so rapidly that any further processing of Bay mud would have been futile and costly with no benefit.


Redwood Shores Project
August 12, 1969
Sterling K. Atkinson, PE, CEG
Construction Management Consultant
415-345-9827
Bayshore Freeway 101


Sterling K. Atkinson, PE, CEG
Construction Management Consultant
415-345-9827
Redwood Shores Project
August 13, 1969
Bay Mud Processing Area
~75 Acres
Excavation Area

R-694

Responses to Sterling K. Atkinson, letter dated July 18, 1996

1. Section 3.1.1.6 (Feasible Reuse Options in the San Francisco Bay Area) explains that bay muds are generally unsuitable for use as engineered fill because of their lack of structural strength. Naturally occurring sand deposits in the Bay have been an important source of construction material for many years. However, the final document has been edited to reflect that rehandling processes do produce material from bay muds that is useful in construction activities (see section 3.1.1.6, subsection titled Construction Purposes). A cost-effective approach to rehandling bay muds does not yet exist, and the practice has only been used to date with NUAD material that had to be rehandled.

2. Statement noted; see also the response immediately above to Atkinson comment 1.

3. Please see the response above to Atkinson comment 1.

Wm. P. Boland, Jr.
7349 Lucas Vally Road
Nicasio, CA 94946
(415) 662-2374
FAX (415) 662-2087
18 July 1996

LTMS EIS/EIR Coordinator
c/o U.S. Environmental Protection Agency
Region 9 (W-3-3)
75 Hawthorne Street
San Francisco 94947

Dear Coordinator:

As a contractor who spent 37 years dredging in and around the San Francisco Bay area and the delta while performing some 235 contracts, mostly for the Corps of Engineers (COE), I feel qualified to make some comments on the Draft EIR/EIS, Volumes One and Two.

During the development of the LTMS I made several constructive suggestions to the San Francisco District of the corps, and it appears that without exception they have been ignored.

My first suggestion was that the Alcatraz disposal area was mis-located in the first place and should be moved about a mile to the northwest where it would scour and never fill up. The COE told me that it could not be moved because "the fishermen wouldn't like it". Apparently no study has been made of this easy solution to the "Alcatraz problem" and I charge that it has not because the LTMS wants to make problems out of non-problems to feed the bureaucracy. The EIS/EIR should point out that for a perioid of at least fifteen years bay area contractoirs have pleaded with the corps to make this minor move of the Alcatraz dump and have been rebuffed with various excuses. 1

Another solution I have suggested is to have the barges dump in 300 feet of water under the Golden Gate bridge on outgoing tides. The dredged material would never reach the bottom and would quickly be diluted to harmless percentages, mix with the natural outflow of mud and never be seen again. Once more, this is too simple and is not considered, for as one can see in the EIR/EIS, the cost of dredging is not considered important. 2

I also challenged the COE statement that "dilution is not the

solution to pollution" pointing out that while a person would not want to drink a glass of chlorine, he wouldn't hesitate to take his child into a swimming pool which contained a couple of gallons of that same chemical. The COE said that I would just have to realize that "science is out, these days". This from a staff member of an organization which purports to have a corps of engineers at its disposal. If it seriously believes such nonsense, then the document under discussion should be clearly labelled "Not a Scientific Study".

The fact that the tides change the water in the bay every two days is not allowed to have any significance for it would make laughable all of the studies about water columns, silt patterns and benthic organisms which are here today and gone half an hour later.

3 I see no mention of the effect of interim regulations on such once thriving installations as the Port Sonoma Marina or the waterfront community known as Bahia, both totally destroyed by BCDC and COE regulations against puting the mud back in the bay system where it came from, a terrible demonstration of uncaring stupidity on the part of both of the aforementioned organizations. The EIR/EIS should ask for an explanation of this disgusting situation from both COE and BCDC and why they do not feel any obligation to mitigate the destruction they have caused.

The complete uselessness of this document is well outlined in the SFEP box in paragraph 3.2.2 and on pages 3-18 through 3-20 of
4 Volume I of the draft. While the SFEP describes the movements of the sediments in the bay and delta as "dynamic" I hold that a better description is chaotic. SFEP says that determining the ultimate fate of disposed dredged material is a challenging task, and that is a delicate way of saying it is an impossible task After one reads the determinations made by SFEP on page 3-20 it is apparent that the agencies involved should explain in the EIR/EIS why it was considered appropriate to spend millions of dollars on a document which has no value whatsoever because it cannot explain how, in the "management" of the bay, it is going to bring order out of chaos.

Even if there were any worth to this LTMS, the diagram on page 3-19 of Volume 1, shows that dredging accounts for but six percent of all solids being redeposited annually in the bay, the balance (94%) being done by natural forces which can be studied forever, without
5 result. If the 6% which is dredged were resuspended by mechanical dredgers the cost of dredging would be minimal and the businesses around the bay would prosper. Again this would be a simple

solution, not palatable to the staffs of the agencies involved and the EIR/EIS should ask for an explanation of why it is not emphasized that the proposed LTMS is only talking about 6% of the ongoing resuspend/redeposit process in the bay. 5

This entire study was made by people who know little or nothing about dredging in and around San Francisco Bay (see page 15-1) and do not consult with people that do. Consequently it is nothing but a wish list made up of "touchy-feely" conclusions and is totally devoid of realistic engineeering concepts. It talks glibly of "beneficial reuse" of dredged material without ever explaining what it was orginally used for. "Reuse" is a nice touchy-feely word like recycle, but why not explain what it was originally used for? 5a

The EIR/EIS should ask what governmental agency speaks for the user of the bay. 6

Maybe I missed it, but I don't recall any mention of how many tons of fish the great colony of sea lions at Pier 29 consume daily and what effect that has on the vanishing salmon runs. 7

If adopted this proposed LTMS will senselessly paralyze commercial and recreational uses of the bay, benefitting only the staffs of the regulatory agencies that have dreamed it up. 8

Respectfully submitted,

cc: COE
BCDC
CSWRCB
SFBRWCB

Responses to William P. Boland, Jr., letter dated July 18, 1996

1. The Alcatraz dredged material disposal site (SF-11) is a federally authorized dredged material disposal site that has been in use for many years. The U.S. Army Corps of Engineers (COE) manages the Alcatraz site as a dispersive disposal location. Due to mounding problems at the site during the late 1980s, the COE introduced new site management practices. To date, these management practices appear to be working and site monitoring indicates that no additional mounding has occurred. The goal of the LTMS Program is to develop a dredging and dredged material disposal management program for the San Francisco Bay region. The preferred alternative (Alternative 3) in the EIS/EIR provides for a reduction in the volume of dredged material disposed of at existing in-Bay disposal sites. However, the relocation of these disposal sites was not examined under the LTMS. It is hoped that with the implementation of the LTMS, such concerns will no longer be relevant.

2. Statement noted. Several sites were evaluated in high current locations near the Golden Gate Bridge, however, none of the sites were considered acceptable for aquatic disposal of dredged material due to their proximity to the shipping channel.

   Dredging- and disposal-related costs are significant matters that are discussed extensively throughout the EIS/EIR. Please see section 4.6 (especially section 4.6.3), and Appendix P. Also, see the new discussion of the transition to Alternative 3 (section 6.5) in the Final EIS/EIR.

3. The issues raised by this comment were not presented during the LTMS EIS/EIR scoping process nor required by NEPA or CEQA regulations. Therefore, the suggested analyses are not appropriate for inclusion in the Final EIS/EIR.

4. This EIS/EIR did not cost millions of dollars to produce. The EIS/EIR is only Phase III of the broader, 5-phase LTMS effort (see section 2.1.3). Overall, approximately $16 million has been spent since 1991 on LTMS studies (including approximately $5 million for studies to support designation of the SF-DODS), and agency staff. The Final EIS/EIR has been revised to include more information on the LTMS work groups; see new section 2.1.4.

5. Chapter 3 describes basic sedimentation processes in San Francisco Bay. It is true that dredged material does not represent the majority of particulate material in the system at any one time; most material is resuspended from the Bay's extensive shallow waters and mudflats by tidal currents and wind-generated waves (see Figure 3.2-3). New sediment input from rivers and streams also represents a relatively small proportion of the sediment in suspension. Nevertheless, significant volumes of dredged material are generated in the Bay Area each year, and the challenges inherent in managing that material in an environmentally appropriate and cost-effective manner justify the attention and resources paid by the LTMS agencies.

5a. The LTMS agencies have sought input and feedback on this programmatic EIS/EIR from those closely involved in dredging issues in San Francisco Bay. As outlined in Chapter 2, an extensive public scoping process was used to identify issues of public concern. These issues were used to develop evaluation criteria for comparing the alternative management approaches for dredged material disposal. The three evaluation criteria include (1) the potential risks and benefits to ecological systems, (2) the degree to which an alternative would support an understandable and consistent regulatory framework, and (3) the effects on dredging-related economic sectors. Comparison and evaluation of the final alternatives based on these criteria (section 6.2) demonstrates the difficulty in determining which management alternative provides a balanced approach for all LTMS stakeholders.

   The LTMS agencies did not identify a preferred alternative in the Draft EIS/EIR to allow the environmental, fisherman, port, and development communities to have an opportunity to provide specific comments on the alternatives. The Final EIS/EIR identifies a preferred alternative — Alternative 3 — that supports both environmental and economic goals and allows for reasonable and effective implementation.

6. An interagency premise for pursuing the LTMS (and the broader San Francisco Estuary Project) is that it is better for the agencies with regulatory jurisdiction to cooperate with each other and the public in seeking solutions for the many concerns about and competing uses for the Bay. Myopic pursuit of separate regulatory agendas was arguably one contributing factor to the "mudlock" of the past. Please see section 2.2.

7. Overfishing, natural predation, habitat degradation, and habitat loss all contribute to declines in migratory fish runs. Dredged material disposal effects are thought to be much less significant. Nevertheless, reducing long-term disposal rates at in-Bay sites, as called for in the preferred alternative, will further reduce risks and cumulative effects on migratory fish populations.

8. The LTMS agencies disagree. Managing dredged material as proposed under the preferred alternative will result in overall long-term environmental benefits, while providing for necessary dredging in support of ongoing commercial and recreational uses.

July 16, 1996

LTMS EIS/EIR Coordinator
c/o U.S. Environmental Protection AGency
Region 9 (W-3-3)
75 Hawthorne Street
San Francisco, CA 94947

Dear LTMS EIS/EIR Coordinator:

Thank you for the opportunity to comment on the "Long Term Management Strategy For The Placement Of Dredged Material In The San Francisco Bay Draft Environmental Impact Statement/Draft Environmental Impact Report".

I am very concerned about the inadequacy of this DEIS/DEIR to adress the management strategy set forth in the document. There are several omissions: 1

1. There is no discussion of compensatory mitigation for the destruction of seasonal wetlands. A Regional Wetland Goals Plan does not eliminate the need under CEQA and NEPA to provide compensatory mitigation for the loss of seasonal wetlands. 1a

2. Spring and Fall Salmon runs were not discussed. These runs are suffering population declines similar to the endangered Winter Run Salmon and deserve the same treatment in the document as the Winter Run Salmon. 1b

3. The DEIS/DEIR should be rewritten based on a realistic time period of 10 to 20 years. General Plans are good only for ten years. 1c

4. More study is needed on the management of the proposed disposal of toxic dredge material (NUAD material) to prove it will never be exposed to bay waters. 1d

For the above reasons I urge you to rewrite this DEIS/DEIR. If not please respond to these concerns in the Final EIS/EIR.

Sincerely yours,

Mary E. Bresler

Mary E. Bresler
371 Imperial Way #205
Daly City, CA 94015

mb/MEB

Responses to Mary E. Bresler, letter dated July 16, 1996

1. Please see the responses below to Bresler comments 1a through 1d.

1a. Please see the responses to SC-LPC comments 2 and 3a.

1b. Please see the response to MAS comment 18c.

1c. Please see the response to BayKeeper comment 2a.

1d. Statement noted. Please see the response to DOI comment 10a.

24010 Ranchito del Rio Court
Salinas, California 93908
July 12, 1996

Ms. Karen Mason
LTMS EIS Coordinator
c/o U.S. ENvironmental Protection Agency
Region 9
75 Hawthorne Street, (W-3-3)
San Francisco, CA 94105-3901

Dear Ms. Mason,

I am sorry that I was unable to attend the June 20 meeting, but I had a student who was defending his thesis in Ensenada on the same day and we were unable to reschedule his defense.

I wanted to comment on the ocean dumping plan. I am very much in favor of an offshore dump site and think that it makes sense both in terms of the Port and also in terms of what we know about the impact of these sediments on the marine environment. My principal concern deals will observing the marine environment in conjunction with dumping operations. 1

First, as you may know from our previous measurements, during southwesterly wind conditions, the surface waters at the dumpsite are advected onshore. This was shown by the path of a drifter that launched at the dumpsite in February 1992 and which, a week later, was picked up at the mouth of the Russian River. Second, during the spring and summer upwelling season, the intermediate level flow (100-500 m) at the dumpsite is likely convergent with the coast. This means that particles at this depth will move toward the coastline and are likely to remain near the coast for hundreds of kilometers (Collins, et al., 1996). Finally, we are unsure of the dispersion rates of the intermediate level flow; our measurements suggest many submesoscale coherent vortices in the region which serve to greatly inhibit dispersion.

I really think that the dump site should have a mooring system which continuously acquires current and temperature data. This would be relatively inexpensive ($50,000 per year plus ship costs). Note that the present shipboard program (yearly cruises) is hopelessly aliased: the highest frequency that you can resolve is two years. 2

Let me know if I can provide further information. Note that one of our graduate students, LCDR John Steger, is close to completing a good tidal current model for the Gulf of the Farallones.

Sincerely yours,

Curtis A. Collins
Professor of Oceanography
Naval Postgraduate School

cc: Dr. Marlene Noble, USGS

Responses to Curtis A. Collins, letter dated July 12, 1996

1. Statement noted.

2. A long-term, continuously deployed mooring would be of questionable value with respect to disposal operations. Monitoring studies to date have confirmed modeling predictions of the site designation EIS, that the bulk of the dredged material disposed at the SF-DODS deposits on the seafloor. Disposal plumes have been shown to dissipate rapidly and locally within the SF-DODS boundaries. Confirmatory monitoring is scheduled to collect additional current meter data which will be compared to data collected during site designation studies. Please see the response to MAS comment 18ff.

Ruth Gravanis
74 Mizpah Street
San Francisco, CA 94131
(415) 585-5304

July 18, 1996

Ms. Karen Mason
LTMS EIS Coordinator
c/o U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street, (W-3-3)
San Francisco, CA 95105-3901

Re: EIS/EIR on the Long-Term Management Strategy for Dredged Material

Dear Ms. Mason,

I have reviewed the Draft EIS/EIR on the LTMS and find the document so incomplete as to warrant a total revision and re-circulation. 1

Following are some general comments:

The stated purposes of producing a policy EIS/programmatic EIR on the LTMS is to select a long-term management strategy that will guide dredged material management decisions. This would imply that no LTMS has yet been selected. However, major decisions are being made based on the LTMS as if it already had official status. It has been driving the Seaport Planning process as well as BCDC's positions on questions such as the transfer of three Mare Island dredge ponds to the Fish and Wildlife Service. If there already is an approved LTMS, it is anachronistic to be producing an EIS/EIR now. If, on the other hand, the official ratification of the LTMS is supposed to occur after the EIS/EIR is certified, then someone ought to inform BCDC, MTC, etc. that they should not be making policy decisions now based on some yet-to-be-selected LTMS. 2

The Executive Summary states that the LTMS is needed to provide certainty for the sponsors of dredging projects (p. 1-3), but there is an inherent contradiction between providing certainty for dredgers and at the same time promising that adequate environmental assessment will be conducted later for each individual project. It is unclear just how this process will provide more certainty. 3

The nomenclature adopted in the LTMS process and reinforced in the DEIS/R reveals a lack of environmental awareness. "Uplands" is not an appropriate term for diked historic baylands which are currently below sea level and which, if restored to tidal marsh, will again be part of the bay. The use of such non-scientific and illogical vocabulary calls into question the credibility of both the LTMS and the 4

4 DEIS/R. A widely recognized system for classifying wetlands already exists, and it should be used in the LTMS.

5 Also, the way the disposal methods are grouped together makes it impossible to compare the environmental impacts of the various methods. Lumping wetland, upland and reuse together as one category of dredged material disposal is counterproductive to a useful analysis of the respective impacts of various disposal methods. Restoring diked baylands to tidal marsh is at least as different from landfill cover as bay disposal is from ocean disposal. The use of the lumped-together "wetland/upland reuse" category also makes it more difficult to look at appropriate and relevant mitigation measures. The DEIS/R should identify faulty nomenclature and illogical groupings of alternatives as deficiencies in the proposed LTMS and should suggest remedies.

6 The 50-year time frame makes no sense. There is no way to predict dredging demands in the San Francisco Bay Area over the next fifty years. The elimination of the ports of Stockton and Sacramento and of the Baldwin Ship Channel could make a huge difference, as could the recent railroad merger and a number of unforseeable market forces. What provisions are made for the periodic revisitation of the projections and for adaptive management based on new information regarding impacts? Where is the monitoring plan which mandates the acquisition of the data necessary to continually revise the LTMS?

7 Failure to analyze the impacts of dredging itself (p. 1-6) is a grave omission that amounts to piecemealing. What would be the point of trying to provide regulatory certainty for dredge spoils disposal when there is no commensurate certainty that the dredging itself will be allowed? Since dredge spoils disposal assumes that dredging will occur, the cumulative impacts of both activities need to be addressed. They are clearly interdependent activities.

8 **Avoidance** of negative impacts is given short-shrift. The most obvious way to reduce the negative impacts of disposal is to reduce the amount of dredging being done. Yet the document quickly disposes of this option by merely calling for reduction of dredging needs on a project-specific basis. There needs to be a discussion of an overall policy for reducing the number and size of proposed dredging projects, Bay-wide. Since "existing reports have not adequately documented dredging needs assessments" (p. 2-17), it is not possible to do an adequate job of proposing policy- and program-level avoidance measures. Yet if this is truly a Policy EIS and a Programmatic EIR, it should address the avoidance of negative impacts in a comprehensive manner. For example, one alternative which should be discussed is placing a limit on the size (draft) of ships allowed to enter the Bay.

9 <u>Following are some of my specific comments and questions:</u>

9a p. 1-12— Evaluation Criteria. "Each of the action alternatives can be implemented without significant adverse impacts to the environment." If this were true, we

4 DEIS/R. A widely recognized system for classifying wetlands already exists, and it should be used in the LTMS.

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9a p. 1-12— Evaluation Criteria. "Each of the action alternatives can be implemented without significant adverse impacts to the environment." If this were true, we

wouldn't be engaged in the expensive and time-consuming EIS/EIR process. A negative declaration would suffice. How did such an obviously incorrect statement find its way into the document? The second item in the list of how the alternatives differ from each other mentions the "degree to which existing habitat values may be lost." Is this loss not to be considered an adverse impact? 9a

p. 2-12 — Need for Action. "Ensure adequate, suitable disposal capacity for projected volumes of dredged material." Projected by whom? On page 2-17 we learn that there are no adequate dredging needs assessments, so how can the LTMS possibly meet this particular "need for action"? Also, there appears to be no attempt to distinguish between need and demand. The DEIS/R should indicate that the LTMS is deficient in satisfying its own stated purposes. 9b

pps. 3-8 and 3-10— Why is the permanent confinement of contaminated material listed under "feasible reuse options"? 9c

p. 3-11— The Revised Dredging Volume Estimate should include a description of the methodology to be used to continually revise the estimates over the 50-year period so that the LTMS can continue to be relevant. 9d

p. 4-88— "As the population continues to grow . . . the Estuary will be further adversely impacted by the elimination or modification of wetlands." Don't we have state policies and federal laws to prevent this from happening? 9e

p. 4-89— The map should be replaced with one which is large enough to show more detail and which indicates which diked baylands are pumped and drained and which are not. This information would be more useful than knowing which are farmed. 9f

p. 4-99— ". . . the upland non-aquatic environment is defined as those areas appropriate for the beneficial use of dredged materials." Appropriate as determined by whom? and by what criteria and methods? What if dredged materials **can** be used but that isn't the **best** way to restore a particular wetland? 9g

p. 4-100— There are tidal marshes on the City of San Francisco's eastern shore, but this map grossly misrepresents their locations. 9h

p. 4-125— Why does the list of functions in ¶2 not mention animal life? Does this omission imply that the "well-defined goals" in the next sentence will not mention wildlife use? 9i

Habitat Conversion Impacts 9j

"While this conversion reflects the historical distribution of tidal marshes . . ." This statement ignores the growing awareness that ecological restoration is a lot more complex than duplicating former distribution of a particular habitat type.

9j ". . . many of the functions of the seasonal wetlands can also exist within mature or maturing tidal wetlands." How/where has this been demonstrated in any significant scale?

9k p. 4-129— The table omits a major potential impact: the extirpation of species from a particular area. Loss of habitat can have a negative impact on species distribution and local ecosystems as well as, in the case of migratory species, ecosystems far away, and eventually, on the very existence of certain species.

9l p. 4-142— ". . . these benefits and impacts depend on the reuse location and operational practices." They also depend upon design, establishment of appropriate biological objectives, monitoring procedures, and remediation and enforcement mechanisms. They also depend upon whether the project is driven by ecological restoration goals or by dredge disposal urgencies.

9m p. 5-3— "The need for ship channels . . . is determined by the COE in its initial evaluation of the costs and benefits of each new project." Is the COE the most appropriate party to do this? Costs to whom? Are environmental costs included? Benefits to whom? What opportunities are there for the public to review these determinations? There needs to be much more thorough discussion and analysis of the ways to avoid impacts by reducing the need. Saying that "the ports **may consider** the feasibility of . . . measures that could reduce dredging requirements" is meaningless without any policies to insist that they do. The two policies listed will **not** "ensure that only necessary dredging occurs" as long as each project and each port facility and marina gets to define its own needs.

9n p. 5-9— Under evaluation criteria for site selection, the table omits compatibility with other proposed uses for the site.

9o p. 6-14— ". . . some degree of habitat tradeoff would be inevitable with almost any habitat restoration project using dredged material." This is not necessarily true. A project motivated by ecosystem restoration goals might use dredged material for a combination of tidal marsh, seasonal wetland and (truly) upland enhancement in a way that benefits a community of species. Habitat tradeoffs **are** inevitable when the project goal is dredge disposal. When a project is driven by dredge disposal demand, the timing of the availability of the spoils can preclude careful biological and hydrological planning and design work and the insurance of adequate monitoring and ongoing adaptive management necessary for successful restoration.

9p p. 6-15— The use of the statistic, although true, that "over 90% of the Estuary's historic wetlands have been destroyed" reveals a formulaic, simplistic approach to ecological restoration. What should also be cited here are the historic losses of: seasonal wetlands, naturally occurring salt ponds, riparian corridors, (truly) upland refugia and associated woodlands, etc. Also needed is a discussion of the way that various species have adapted to anthropogenic environmental changes, such as the use of diked baylands to compensate for the loss of Central Valley wetlands. The LTMS approach to wetlands restoration is analogous to a grasslands restoration

project which calls for the removal of all non-native trees even if they are the nesting sites for native hawks or owls which were driven off their preferred nesting sites by human encroachment. The goals of habitat restoration should include maintaining biological diversity and restoring the processes which sustain that biodiversity. This is more complex than focusing in on a particular habitat type and attempting to replace it without regard for meeting the needs of interdependent plant and animal communities. 9p

How was the 12,500-acre figure derived? 9q

p. 6-39— What are the environmental impacts of increasing regulatory certainty by making federal money available for a larger share of dredge disposal projects? 9r

First of all, increasing public funding for dredge disposal will likely reduce incentives to reduce dredging. What are the adverse impacts of increased dredging? 9r(1)

Secondly, increasing the federal share of wetlands restoration projects using dredge spoils is likely to increase the number of wetland projects driven by spoils disposal goals rather than ecological restoration goals. What are the impacts? (There should be increased federal funding for ecological restoration, and when a restoration project calls for clean dredged material, the restoration project costs should include assistance with delivery expenses as necessary to assure that appropriate dredged material is made available.) 9r(2)

Thirdly, any continuing or new public support for deepening ship channels constitutes a subsidy to the shipping industry, which creates financial incentives to buy foreign-made rather than locally made goods, and makes it more likely that natural resources produced here, such as lumber, will be sold to foreign companies. What are the environmental impacts? Dredging and dredge disposal costs are part of the true costs of transporting goods, and they should be born by the shipper and passed on to the consumer as the market will bear. If public subsidies to the shipper make it cheaper to buy a new TV (built with cheap labor in a country with little or no environmental regulation) than to get a broken TV repaired here (keeping it out of the landfill), what are the impacts on the environment? 9r(3)

Fourthly, public funding of dredging and dredged spoils disposal "needed by" recreational marinas constitutes a subsidy to certain recreational uses, not uses usually engaged in by the most needy people in our society. How can we reconcile the social inequity here? 9r(4)

p.7-8— Financing Options to Promote Beneficial Reuse. While the incentive approach to influencing someone's behavior is always preferable to "the stick" approach, it may be necessary to institute regulations which prohibit those disposal options which are the most harmful. 9s

9t p. 7-9— "7.3.1.1 Develop More Dredging-Related Wetlands Restoration Projects." If the LTMS agencies were truly interested in promoting ecological restoration, this option would read instead: "Develop ways to publicize ~~and facilitate the availability~~ of clean dredged materials as needed for wetlands restoration projects."

9u p. 7-10— There are many problems with the mitigation bank idea, among them the loss of habitat for particular wildlife populations, resulting in a loss of genetic diversity. Mitigation banks can result in a loss of habitat values needed in a specific geographic location and in the loss of small wetlands which comprise essential biological corridors. There are also many administrative problems which have never been solved; e.g., does "established" mean functioning? How would monitoring and remediation be funded and enforced?

9v p. 7-11— Why create a new joint powers district exclusively for dredging-related fines? How many violations are expected? Does the LTMS anticipate keeping the penalties so low that there will be no serious disincentive to repeated violations?

9w p. 7-12— Identify markets and uses. One idea is to set up an electronic bulletin board on which potential users of dredged materials could specify their needs (time frame, amount, sediment particle size, acceptable range of salinity and pH, dates needed, etc.) and potential dredgers could advertise upcoming availabilities.

9x p. 7-13— Absence of Monitoring Funds. The environmentally sound disposal of dredged material must be considered an integral part of the dredging project, and the sound disposal into the aquatic or any other environment requires a monitoring program. Therefore, the ability to pay the costs of monitoring must be verified before the permit for the dredging project is granted. The sponsor of the dredging project should be **required** to secure funding for management, monitoring and any subsequent remediation which may become necessary.

9y p. 77-14— Dredging Permit Fee. Unless performance bonds are going to be required of project sponsors, the fee should be high enough to create a remediation fund for situations in which the project sponsor becomes unable to pay.

I appreciate the opportunity to comment, and I look forward to reviewing a new Draft EIS/EIR.

Sincerely,

Ruth Gravanis

Responses to Ruth Gravanis, letter dated July 18, 1996

1. Statement noted; however, the LTMS agencies respectfully disagree. The LTMS agencies believe that the EIS/EIR provides an appropriate and adequate analysis for the policy-level decisions being made.

2. See the new "transition" language in section 6.5. Some transition toward Alternative 3 is already occurring under existing authorities and plans. Broader implementation of Alternative 3 will occur with adoption of the first Management Plan, to follow publication of this Final EIS/EIR and its Record of Decision (ROD).

3. Certainty and predictability will be increased for dredgers by many of the actions that will occur based on, or following, this EIS/EIR. These include streamlined permit application procedures via the DMMO, clearer articulation of disposal site volume and timing limitations and, in the long run, establishment of multi-user rehandling and beneficial use sites.

4. Please see the response to DOI comment 13. The Fish and Wildlife Service has National Wetland Inventory Maps which are used in combination with the COE's Wetlands Delineation Manual, by the Environmental Laboratory at the COE Waterways Experiment Station (WES). It is expected that the LTMS would also use a combination of these two documents to classify wetlands.

5. Please see the responses to DOI comments 13 and 27f.

6. Please see the response above to BayKeeper comment 2a. The Management Plan will include management parameters and monitoring requirements needed for each disposal site. Data on dredging will be continuously collected, including site monitoring as necessary and appropriate. In addition, the periodic reviews discussed in response to BayKeeper comment 2a will reflect independently collected new information.

7. Impacts of dredging are evaluated on a project-specific basis. In addition, the LTMS agencies will continue to work towards evaluating the need for specific dredging projects. However, we can expect dredging to continue in the Bay area over the long term. Therefore, the focus of the LTMS EIS/EIR is on disposal of dredged material. Individual disposal projects will still be required to undergo site-specific review.

   In order to estimate the amount of dredged material requiring disposal, the LTMS EIS/EIR estimates in section 3.1.2 the dredging volume for dredging projects that are expected to be carried out in the future. Although the LTMS is not making decisions regarding dredging projects, a general discussion of dredging impacts has been added to the EIS/EIR. In addition mitigation measures have been added to help facilitate dredging projects.

8. Please see the responses to CDFG comment 1, EDF comment 1c, and MAS comment 19j.

9. Please see the responses below to Gravanis comments 9a through 9y.

9a. It is true that each of the action alternatives could be implemented without significant adverse environmental impacts. Recall that the action alternatives each represent a significant change over no-action conditions, in that each includes a more balanced overall distribution of dredged material placement, each includes substantial amounts of beneficial use of dredged material, and each includes significant reductions in the allowable in-Bay disposal volumes.

9b. The volumes of dredged material discussed in this EIS/EIR were projections developed by a contractor to the LTMS agencies. As noted on page 2-17 of the Draft EIS/EIR, these projected volumes are considerably reduced from earlier estimates. The role of this programmatic EIS/EIR is to evaluate alternatives based on these projected volumes, which constitute a "best estimate" of future needs of maintenance dredging, deepening of present channels, as well as reduction of dredging due to base

closures, etc. The need for a particular dredging project, as well as possible alternatives, will be evaluated as part of the EIS/EIR prepared for that specific project. This EIS/EIR is therefore not deficient in its goal of evaluating, at a programmatic level, alternatives for disposal of dredged material.

9c. Several types of confined aquatic and upland disposal exist, but only a few of these are labeled as reuse. Material not suitable for unconfined aquatic disposal (NUAD) that is used in upland or aquatic beneficial reuse projects would be placed within confined sites. These confined sites are designed to manage the physical and chemical pathways associated with the material. NUAD material can be reused as non-cover material in wetland creation/restoration projects. In upland environments, NUAD material can be reused as daily cover and liner in landfills and reused in construction projects.

9d. The methodology used to estimate the current LTMS dredging volume is provided in Appendix E and Chapter 2. Actual numbers can continue to be used in the future, as was done in the Draft EIS/EIR, to revise the dredging volumes and develop the best projections.

9e. Unfortunately, despite federal and state laws protecting wetlands, impacts continue to occur, for example through illegal fills. While avoidance of direct or indirect significant impacts to wetlands is paramount in federal and state law, off-site mitigation of unavoidable impacts is also permitted for certain projects. While mitigation projects for such losses are required, not all are successful. Consequently, there remains an ongoing threat to Bay Area wetlands.

9f. The map which is referred to in this comment is under development by the San Francisco Bay Estuary Institute. However, it is not currently available. Further, it is likely that the detail which is requested by this comment could not be produced on a map which would be of suitable detail and still fit the overall format of the EIS/EIR. In addition, information regarding which dikedbayland farms are presently pumped and/or otherwise drained is not particularly relevant as management practices within these areas are known to change significantly from year to year.

9g. Statement noted. The definition noted in the Draft EIS/EIR is used in a general sense. It does not mean that all upland non-aquatic environments are appropriate for beneficial reuse without careful analysis and evaluation. Instead, this definition is intended to identify that beneficial reuse of dredged material would likely occur in upland habitats to achieve beneficial reuse activities not feasible in the in-Bay or Ocean environments. In addition, not disposing of dredged material in-Bay helps to minimize adverse effects on the in-Bay environment. These upland habitats consist of diked historic baylands, managed wetlands, delta levees, and urbanized areas. Section 4.4.2 has been edited to read "...the upland and non-aquatic environment is defined as those areas that may be determined appropriate for the beneficial reuse of dredged material after site-specific environmental analyses are conducted and a dredged material management alternative is chosen."

As Tables 5.1-3 through 5.1-6 outline, guidelines must be used to determine the appropriateness of a site for a proposed beneficial reuse project. The LTMS agencies must consider a variety of issues before deciding to proceed with a project at a particular upland site.

Please see the responses to PTG comment 8 and Gravanis comment 9r(2).

9h. Statement noted. This information will be passed on to the San Francisco Bay Estuary Institute, the creator of the map. However, direct contact with the Institute may be more desirable in order to provide the appropriate corrective information.

9i. The specific functions listed for wetland restoration on Draft EIS/EIR page 4-125 reflect those required for a healthy ecosystem. Hydrologic and nutrient supply factors provide the base for successful vegetation and wildlife establishment. Re-vegetation is emphasized because of the often difficult but crucial step of establishing native plant communities. A native plant community is necessary to support wildlife species, and symbiotic, or dependent relationships, often exist between plant and animal

species that are essential for the ecosystem to remain intact and stable. Goals of restoration projects will include, out of necessity, the establishment (recovery) of viable wildlife populations. Revisions on Draft EIS/EIR page 4-125 clarify that function (e), persistence of consumer populations, includes wildlife populations consisting of both invertebrate and vertebrate species. In addition, the text has been edited to clarify that the ultimate goal of wetland restoration is to support both native plant and animal species in a stable, functioning ecosystem.

9j. Please see response to SC-LPC comment 3i regarding seasonal wetland habitat functions that can be found in mature tidal marshes. Also see the responses to DOI comments 10a and 10b, and OAS comment 7 regarding mitigation for seasonal wetland habitat loss. Please note that the Final EIS/EIR has been revised to include provisions for compensatory mitigation for lost seasonal wetland habitat functions not augmented by tidal wetland restoration efforts (see section 5.1.2.1 and Table 5.1-4.)

9k. The LTMS agencies share the concern regarding localized impacts and the effects such impacts have on the broader spectrum of species survival. However, Table 4.4-15 illustrates the potential impacts and benefits of dredged material reuse in the UWR environment on the programmatic level. The table attempts to identify the potential impacts presented in section 4.4.5. Section 4.4.5 provides an analysis of impacts associated with UWR reuse at a regional level and speaks more to the issue of habitat conversion than direct impacts on individual species. As detailed throughout the document, wherever possible, the LTMS agencies propose to utilize the developed regional restoration planning goals as the basis for UWR site selection. These restoration planing efforts do provide for migratory species protection and habitat improvements.

9l. The LTMS agencies concur. Benefits and impacts will also depend on project-specific design, establishment of appropriate biological objectives, monitoring procedures, and remediation and enforcement mechanisms.

9m. The federal interest in navigation is established by the Commerce clause of the U.S. Constitution, defining the right to regulate navigation and improvement of the navigable waterways. Federal jurisdiction over navigation extends to all navigable waters of the United States and it is the mission of the COE to evaluate improvements in navigation by measuring the merits of such an improvement against a single federal objective — the National Economic Development (NED). The requirement is to identify all costs, with and without the considered navigation improvement, and make a justification by comparing these costs to the benefits received from such an improvement. NED benefits are normally expressed in monetary units, generally attributable to the costs of and return from commercial activities.

There are other benefits considered in the NED evaluation which, while offering direct effects as a result of an improvement, are not otherwise accounted for in the evaluation. One such incidental benefit is the evaluation of the effects an improvement has on the environmental resources, and this evaluation becomes essential to making a reasoned choice among improvement alternatives. This evaluation is documented in the NEPA/CEQA coordination for every improvement and is made available to the public for comment throughout the evaluation process.

As far as addressing the concern that sufficient policies need to be in place in order to regulate the necessity for dredging, the LTMS Management Plan will address the reduction in dredging as well as the need for dredging.

The National Economic Development (NED) process is discussed in section 4.8.1.2 under the section on the Water Resources Planning Act of 1965. The Composite EIS will be updated and the public will have an opportunity to provide input to that process.

9n. Table 5.1-2 on page 5-9 omits compatibility with other proposed uses for sites as a criteria for site selection because the LTMS program is being evaluated on a 50-year planning period. It is expected that proposed sites would be used only for rehandling during the 50-year planning period, or as long as

sites are needed for these purposes. Other uses on the same site would not be considered while it is used as a rehandling facility. After sites are no longer used for rehandling purposes, restoration of the site for use as a wetland, park, or other appropriate use would be considered. Additionally, since there is a 50-year LTMS planning period, the current availability of a site was also not considered; a site that is presently unavailable may become available during the planning period.

9o. We respectfully disagree with the commentor's conclusions. Unless habitat restoration occurs at some location which, at present, has no habitat value whatsoever (such as a paved parking lot, for example), some change or trade-off of habitat type is bound to occur. This will occur regardless of whether dredged material or some other resource is used in the restoration. Careful design, planning, and monitoring will be developed for all individual restoration projects. One purpose of the LTMS process is to provide the flexibility for a variety of options to ensure that the short-term need for disposal does not preclude the best use of the dredged material.

9p. Use of the phrase "...over 90 percent of the Estuary's historic wetlands have been destroyed" was not intended to simplify the fact that diverse types of valuable habitat have been lost throughout the Bay Area. Conserving biological diversity is an extremely complex process, particularly since species now utilize habitat not historically within their range due to human encroachment. Use of the above phrase on page 6-15 of the Draft EIS/EIR was used to emphasize that any wetland restoration, enhancement, or creation that occurs as a result of the beneficial reuse of dredged material would help to moderate historical wetland loss. However, because such a significant amount of wetlands have been lost, additional restoration, either as a result of LTMS or some other process, would be required to offset the huge percentage of lost habitat.

The restoration and creation of wetlands as a result of the LTMS process should result in increased acreage of tidal wetlands, while ensuring that seasonal wetlands are also conserved through policy-level mitigation measures (see Chapter 5 of the Final EIS/EIR). In addition, programs such as the Regional Wetlands Goals examine how to preserve biological diversity appropriately given the loss of vast amounts of prime habitat in the area. Finally, any proposed wetland restoration project would require an environmental review, which would consider any special status species' use of the site.

9q. The 12,500-acre figure is an estimate of the acreage of tidal wetland habitat that could potentially be restored under the high dredged material reuse scenario (80 percent to the UWR environment), as described in section 4.4.4. This estimated figure is presented in section 6.1.2.3 as an example only, to indicate the potential acreage of diked wetlands which would be converted to tidal wetlands under a high UWR reuse scenario.

9r. This has been already addressed: the impacts of Alternative 3 are described in Chapters 5 and 6. These discussions assume full implementation, which cannot occur absent new financing options from federal or other sources.

9r(1). It is anticipated that dredging will not increase, but decrease. The current LTMS estimate of long-term dredging needs is 25 percent *less* than previous estimates. Chapters 3 and 5 now include an expanded discussion of the potential impacts of the act of dredging itself.

9r(2). Financing options that could be used to promote the beneficial reuse of dredged material are discussed in section 7.3 of the EIS/EIR. Most of these financing options are driven by ecological restoration goals. Although the use of dredged material in the restoration process can alter initial site screening criteria (i.e., such as appropriate location and the determination of the amount and type of fill material to be used), wetland restoration with the use of dredged material has the same ecological restoration goals as wetland restoration projects that do not use dredged material. Dredged material would not be used in instances where the design process shows that ecological restoration measures using dredged material could not be met. Instead, restoration using dredged material would be implemented when the benefits of dredged material reuse and successful ecological restoration could be combined.